

# Topical treatments for rosacea

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## Clinical question

Which topical agents provide the best patient-reported improvements in rosacea?

## Bottom line

For moderate to severe papulopustular rosacea, topical metronidazole, azelaic acid, and ivermectin have similar benefit, with about 65% to 75% of patients reporting improvement compared with about 40% of patients using placebo over 2 to 3 months. Head-to-head trials show that azelaic acid and ivermectin might be slightly better than metronidazole. Cost might assist choice.

## Evidence

- A systematic review of RCTs of treatments versus placebo with patient-oriented outcomes<sup>1</sup> showed the following:
  - In a meta-analysis by the PEER (Patients, Experience, Evidence, Research) Group of 2 similar RCTs of 178 patients using daily 1% metronidazole,<sup>2,3</sup> patient-perceived symptom improvement after 2 months was 75% versus 37% with placebo (number needed to treat [NNT]=3).
  - In a meta-analysis by the PEER Group of 2 RCTs of 1371 patients,<sup>4</sup> patients using daily 1% ivermectin showed good to excellent improvement after 3 months (68% vs 37% with placebo; NNT=4).
  - In 4 RCTs of 1226 patients,<sup>5-7</sup> twice-daily 15% to 20% azelaic acid showed good to excellent improvement after 3 months<sup>1</sup> (63% vs 42% with placebo; NNT=5).
- Daily 1% ivermectin versus twice-daily 0.75% metronidazole in 1 RCT of 962 patients<sup>8</sup> showed good to excellent improvement after 4 months (86% with ivermectin and 75% with metronidazole; NNT=10).
- In the highest-quality, largest RCT<sup>9</sup> of 251 patients, twice-daily 15% azelaic acid versus twice-daily 0.75% metronidazole showed good to excellent improvement after 15 weeks (78% with azelaic acid and 64% with metronidazole; NNT=8).
- Adverse events (primarily burning and stinging) for metronidazole, ivermectin, and azelaic acid were similar to placebo.<sup>1</sup> In 1 trial,<sup>9</sup> more patients using azelaic acid had adverse events than those using metronidazole (26% vs 7%).
- Limitations: Most trials were industry sponsored.

## Context

- Canadian guidelines' first-line recommendations are for topical metronidazole, azelaic acid, or ivermectin.<sup>10</sup>

- The estimated 90-day costs in Alberta are as follows<sup>11</sup>:
  - \$92 for twice-daily 15% azelaic acid,
  - \$54 for daily 1% metronidazole,
  - \$220 for daily 1% ivermectin, and
  - \$440 for twice-daily 0.75% metronidazole.
- There is no clinical difference between 0.75% and 1% metronidazole.<sup>1</sup>
- Other topical treatments have less evidence for their use<sup>1</sup> or are not currently recommended.<sup>10</sup>
- Oral medications are reserved for severe symptoms or topical treatment failure.<sup>10</sup>

## Implementation

Recently recommended diagnostic criteria for rosacea consider persistent centrofacial erythema or facial skin thickening (most commonly on the nose) independently diagnostic for rosacea. Additional major (eg, papules, pustules, and telangiectasias) and minor (eg, stinging sensation) features might assist with the diagnosis.<sup>12</sup> Observational studies find that triggers (most commonly reported: sun exposure, stress, hot weather, wind, and alcohol use) might exacerbate rosacea.<sup>13</sup> Until evidence to the contrary is found, avoidance of these potential triggers seems reasonable. 🌿

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### Competing interests

None declared

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